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ABSTRACT

THE CIVILIAN WORK FORCE PERFORMS DEPOT LEVEL MAINTENANCE IN THE PERSIAN GULF WAR

The United States Army Support Group (ASG) was a provisional organization developed by the United States Army Materiel Command to meet the need for depot level maintenance and supply capabilities in the Persian Gulf War. This paper addresses the role of the civilian work force, both civil service and private contractor, in this organization. The paper includes a historical overview of the civilian work force in support of DoD, a description of how the ASG operated, and recommendations to best capitalize on the ASG experience in Saudi Arabia.

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Executive Research Project
A84**

The Civilian Work Force Performs Depot Level Maintenance in the Persian Gulf War

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INTRODUCTION

The United States and its allies have recently demonstrated one of the most successful logistics accomplishments in military history. The logistics effort to sustain coalition forces during the Persian Gulf war was unprecedented. General H. Norman Schwarzkopf, CINC, CENTRAL COMMAND, recognized the value of the logistical community when he said "The overall logistical effort to mobilize and support Desert Shield /Desert Storm was herculean, especially in the weeks prior to hostilities. The super performance of the logistics community deserves high praise."¹

Who were these logisticians who performed such logistical feats in South West Asia? The answer to this question lies in the "Total Force" concept. There are three distinct parts to our total military force:

- * active duty military
- * reserve and national guard
- * civilians (US government employees, and private contractors)

The civilian sector of the "Total Force" is taking on greater importance as we transition into the post Cold War period. Civilians, both civil servants and contractor employees deployed in record numbers to support their respective services during Desert Shield/Desert Storm. Civilians often represent capabilities which are not available in the uniformed services. The focus of this paper will be on the civilian work force which performed the depot level logistical functions for the US Army in the Persian Gulf.

THESIS STATEMENT

The United States Army combat forces can not be sustained in the next major armed conflict without a highly skilled civilian work force consisting of US civil servants and civilian contractors capable of providing depot level maintenance, supply and distribution functions.

Why will the civilian work force take on added importance in the future? To answer this question, we must briefly address the following issues:

- * future conflict
- * downsizing of the military and government work force
- * changes in the maintenance base

FUTURE CONFLICT

The United States has won the Cold War and the Soviet Union has fallen from the status of a "Super Power." There is a New World Order evolving with the United States as the sole remaining "Super Power." These dramatic changes have produced a global environment which is greatly susceptible to political, economic, social and military instabilities. The threat of a global WW III has been replaced by the threat of regional conflicts such as the Persian Gulf War. Our experience in this war demonstrated that we can not be sure when and where the next conflict will occur. It also demonstrated we lack the logistical force structure to be solely reliant on our uniformed services. Civilian expertise was essential to the sustainment of our high tech weapons systems. In

addition to armed conflict, our military and civilians can be expected to become increasingly involved in such non-traditional missions as humanitarian assistance, peacekeeping and enforcing, anti-terrorism and drug trafficking. Military, as well as civilian expertise will undoubtedly play a major role in these non-traditional military missions.

DOWNSIZING OF THE MILITARY AND GOVERNMENT WORK FORCE

Our armed forces are undergoing a reduction in manpower and resources which will dramatically change the business of war fighting. Major changes in the way we fight will result in corresponding changes in the way we sustain. DoD plans to reduce active duty end strength from 2.2 million in 1987 (when the reduction began) to 1.6 million in 1997. About two-thirds of these reductions have already been completed by the end of 1992.² This reduction will force the services to re-evaluate their current operational and logistical doctrine. The services have become increasingly reliant on high tech, high dollar, low density weapons systems to protect our national interest around the world. These weapon systems will dictate high readiness rates and reduced maintenance downtime. The ability to meet these criteria will be significantly degraded with the reduction or elimination of many of the high tech military occupation skills from the combat service support units. The loss of technical skills in the uniformed services leads to greater reliance on the civilian sector.

Civilians working within DoD can also expect manpower

reductions. There is speculation within the United States Army Materiel Command (AMC) that two of the Army's depots are being considered as serious candidates for closure or consolidation. Other AMC sources indicate a 15% to 20% reduction in the depot work force can be expected.³ The challenge to the depot system will be to meet the force reductions while retaining the expertise in the low density, high tech jobs.

The reduction of uniformed capabilities coupled with a similar loss in the civil service sector will have a major impact on the Army's logistical capabilities. Achieving the proper mix of "tooth to tail" becomes even more critical in today's environment of force reductions and resource constraints.

MAINTENANCE BASE

The maintenance base is that portion of the industrial base which supports deployed military systems, ensures force readiness and sustains forces during military operations. This base is made up of organizational level, intermediate level, and depot level maintenance. The organizational and intermediate levels are performed by uniformed service members while depot level maintenance is usually performed by US government civilians and private contractors. The most likely changes to the maintenance base are as follows:

- * consolidation of depots within DoD
- * increased privatization of depot workload

The depot maintenance system has received tremendous political

pressure to reduce cost and increase efficiency through consolidation of depot maintenance and supply functions.⁴ "The Defense Management Report Decision (DMRD) 1990 directed the services to develop a corporate business plan to achieve a savings target of \$3.9 billion by increasing the efficiencies in depot maintenance operations."⁵ This plan included :

- * single DoD site for similar maintenance functions
- * consolidating facilities by type of weapons system
- * greater reliance on competition

The Army currently runs 8 major depot maintenance facilities, has a budget of about \$1.6 billion, and employs about 18,000 people in its in-Service facilities. As a result of the DMRD 1990 the Depot Systems Command has undergone some significant organizational changes. Heavy combat maintenance will be consolidated at Anniston Army Depot, light vehicles and artillery at Red River, missiles at Letterkenny and tactical vehicles at Tooele. Although a number of changes have occurred, there is still a major concern about excess capacity and duplication of capabilities between inter-service maintenance facilities.⁶

The possible consolidation of depot level maintenance activity between the services will have a significant impact on logistical support for a regional conflict. If the service depots do consolidate they will probably fall under a DoD Depot Systems Command. This DoD organization will be a true joint organization and provide for efficiencies in peace time as well as war. A DoD Depot Systems Command which exists prior to hostilities provides

for a much smoother transition to war time logistics. It would serve as the central authority to integrate the logistical components of the "Total Force" into a theater logistics organization. Aside from the obvious cost saving, this consolidated approach would allow for a more proactive logistical planning process.

The concept of depot consolidation has proven to be a very controversial issue with the services as well as the politicians. Each of the services have valid reasons for not wanting to forfeit their depot level maintenance mission to a sister service. The primary reason has to do with "service peculiar" missions. Additionally, the economic repercussions of closing a major employer such as a depot would meet stiff political opposition.

The second most likely change to the maintenance base is the increased privatization of depot workload. Excess depot capacity and excessive operating cost will no doubt force changes in the way we perform the wholesale supply and maintenance functions. Increased competition between the services and between the private and public sector may be the best way to accomplish this transition. It is a reasonable expectation for the wholesale system to move in this direction.

CIVILIAN SUPPORT DURING DESERT SHIELD/DESERT STORM

"Civilian employees, despite seemingly insurmountable logistical problems, unrelenting pressure and severe time constraints, successfully accomplished what this nation asked of

them in a manner consistent with the highest standards of excellence and professionalism."7 This quote from the Senate Concurrent Resolution 36 speaks highly of how civilians performed in the Persian Gulf. To fully appreciate the expanding role of the civilian work force in today's military we must examine their role in past.

The civilian work force became increasingly important in Southeast Asia in the 1960's. The military employed large numbers of US and foreign national civilians to support its logistical requirements in Vietnam and Thailand. These civilians fell into two categories; direct hire and contract employees. The direct hire were mainly Vietnamese local nationals and some Department of the Army civilians (DACs). The contract employees were private citizens employed by US companies to performed maintenance on wheel and track vehicles, artillery, engineer equipment, aircraft, avionics equipment and marine equipment. The scope of the work covered end items and components and ranged from organizational to depot level repair.8

The Army was by far the largest employer of the civilian work force. In May 1969 there were approximately 19,000 local national civilians in 13 major logistical organizational throughout Vietnam. The exact number of US contractor civilians in theater during this period is not known. Specific numbers of civilian employees were maintained only in aviation maintenance. At its peak in 1969, the number of contract aviation maintenance personnel reached a level of approximately 2,120 employees. Additionally the Army employed

141 field service representatives. These representatives actually lived with the unit and advised and assisted the unit with maintenance problems during field operations.⁹

The other services employed civilians but on a much reduced scale. The Air Force had nearly 9,700 contracted personnel performing logistical functions. Of this figure, about 2,800 were dedicated to all levels of maintenance. The Navy employed approximately 8000 civilians to augment it's logistical activities. Just as in Desert Shield/Desert Storm, the Marine Corp made only limited uses of civilians in Vietnam. They coordinated all their requirements through the Navy.¹⁰

Why did we turn to the use of civilians during Vietnam? The answer is similar to the reason civilians were used in Desert Shield/Desert Storm. A large scale logistical requirement coupled with an in-country military personnel ceiling resulted in inadequate numbers and skills in the uniformed military. Although personnel ceiling were not in effect for the Persian Gulf, the rush to get combat troops on the ground resulted in maintenance backlogs and untimely sequencing of CSS troops into the theater.¹¹

Civilians, both civil servants and contractor employees, deployed in record numbers to South West Asia to support their respective service components. Prior to discussing the US Army's approach to the civilian work force, a brief overview of civilian support by service component will be beneficial.

US ARMY

The Army employed the greatest number of civilians of any of the services. The decision to provide depot level maintenance and supply in theater, as far forward as possible resulted in the creation of a provisional US Army Support Group (ASG). This support group included as many as 1500 government and 3000 contractor civilians working in a number of functional areas.¹² These commodity areas included communications, intelligence, commercial contracting, depot and intermediate level maintenance, new equipment issue, force modernization, graves registration and mortuary services.

A five day indoctrination and training program was prepared to assist the civilian work force in their transition to a combat environment. The Army was the only service to take such a centralized approach. After action reports indicate this approach was extremely helpful; however, it soon became obvious that there would be a number of problems associated with civilians working in a combat environment. Some of the more significant problems are listed below:

- * billeting
- * life support
- * emergency medical care
- * issue/use of protective clothing and equipment
- * means of communication
- * prisoner of war status
- * danger pay
- * workmen's compensation insurance

These areas proved to be problems for all DoD civilians; not just those in support of the Army. Field commanders are not resourced to provide the necessary support to a civilian work force. This problem was partially solved once the ASG was established. It provided the civilian work force with their own command and control headquarters. All of these areas have been addressed by various action agencies since the end of the war.¹³

AIR FORCE

The Air Force had over 200 civilian employees and 79 defense contractor representatives in-theater during Desert Shield /Desert Storm. Of the 200 Air Force civilians, forty four were "tech reps" who provided maintenance assistance to tactical air squadrons. The remainder were involved in providing logistics management, fuel support, telecommunications, civil engineering, procurement, personnel management, and mortuary affairs. The private contractors provided technical hands on support to many of the systems they normally supported during peacetime operations. They developed numerous special repair techniques and resolved countless complex maintenance and system operation problems.¹⁴

Due to the limited number of personnel deploying, the Air Force took a much more decentralized approach to preparing their civilians for deployment. All Air Force contractor personnel were processed and deployed directly from home station. This approach resulted in some confusion as they entered into the theater.

NAVY AND MARINES

The Navy had 500 to 600 civilian employees performing port related functions in theater. Additionally there were another 500 Military Sealift Command mariners afloat. Most of the shore activity was in support of aircraft and ship repair. It should be noted that the marines were the only service who did not deploy with dedicated civilian assistance. Any help the marines required was provided by Navy civilians.¹⁵

DEPARTMENT OF DEFENSE CIVILIANS

In addition to civilians oriented to specific services it should be noted that other Department of Defense (DoD) agencies had civilians in theater. These DoD agencies provided expertise in communications, intelligence, mapping and logistics management. Of the DoD agencies, the Defense Logistics Agency (DLA) had the largest number of civilian personnel in the theater (approx 150).¹⁶ These civilians played a particularly important role in the distribution of fuel and repair parts.

WHY DEPOT LOGISTICS?

The highly sophisticated weapon systems employed in South West Asia required timely, dedicated, general support and depot level supply and maintenance support. It was this very requirement which caused the Army to consider new approaches to depot level capabilities in the theater.

During the early days of Desert Shield it became increasingly

obvious to the in-country logistical planners that depot level capabilities were definitely needed. The elaborate infrastructure that exists in the European theater was not available in Saudi Arabia. The United States had no pre-positioned stocks of major weapons system available for immediate use. Although Saudi Arabia does have a modern military infrastructure, it was insufficient to sustain large numbers of US forces in an extended armed conflict. Efforts to compensate through host nation support was found to be lacking.

Recognizing the need for a forward depot level capability was simple; developing the solution was much more difficult. Establishing a depot in Saudi Arabia was a politically sensitive issue. Placing a full blown industrial operation on Saudi soil would send the wrong message to the countries in the region. This would suggest a permanent US presence which historically has been politically and culturally unacceptable.

US ARMY SUPPORT GROUP

AMC's answer to the depot level maintenance requirement was the formation of the ASG. Development of the ASG became the mission of the Army Depot System Command (DESCOM), a subordinate command of the AMC. DESCOM started its initial planning effort on Labor Day weekend 1990. By 15 Oct 90 the US ASG (Rear) was a reality and considered a tenant activity of Letterkenny Army Depot, Chambersburg, PA. The organization grew from a low of 36 personnel working state-side at Letterkenny Army Depot to a high of

approximately 1300 in Saudi Arabia. The first increment of ASG personnel, approximately 150, deployed to Dhahran in November 90, with subsequent deployments continuing over the next 5 months.

The ASG was composed of personnel from all three sectors of the "total force". Civilians, however, were by far the largest group in the ASG. On average, civilians numbered approximately 825 out of an average assigned strength of 1100 personnel.¹⁷ The resourcing of the ASG posed a special problem for DESCOM. The concept was to man the ASG with volunteers from DESCOM's network of depots. These personnel along with private contractors possessed the maintenance and supply expertise lacking in the Army's combat service support (CSS) units. The challenge was to achieve a balance of expertise between the state-side depots and the deployed ASG. The depots could not afford to have all their high tech maintenance capability out of the country at the same time. This is particularly true if the US is expected to fight two major regional contingencies simultaneously.

DESCOM has since developed a system which carefully identifies the positions needed to form the cadre for the ASG and made provisions to "backfill" and train temporary employees to keep the depots operation efficient. Civilian employees sign contracts indicating their willingness to deploy overseas in support of deployed combat forces. This program is called the Emergency Essential Program and basically serves as a skills bank to meet the short fuse requirements of a national contingency. This program takes on added importance in light of the expected loss of the

high-tech skills in the uniformed services.¹⁸

DESCOM designed the ASG on a modular, building block concept. The ASG would consist of a simple command structure capable of receiving modules tailored for specific contingencies. The desired result is an organization which is flexible and can be adjusted as the theater moves through its life cycle of initial build up, maturation and eventual draw down as the mission is completed. This organization would perform the following missions:

- * minimize evacuation from the theater for repair
- * reduce the time and distance between point of failure and point of repair
- * shorten the inventory pipeline for critical war fighting stocks

Such an organization would be capable of supporting a range of contingencies, from military operations such as Desert Shield/Desert Storm to the humanitarian efforts such as Somalia and the hurricane relief effort in Florida. The ASG concept was not employed in Somalia due to uncertainty of the situation, however it was used in Florida with great success.¹⁹

The ASG in Saudi Arabia consisted of the following modules:

- * maintenance
- * supply
- * aviation
- * procurement
- * contracting
- * plans and operations

Since Desert Shield/Desert Storm, DESCOM has considered including such capabilities as Logistics Assistance Office (LAO), Army Oil Analysis Program (AOAP), aviation maintenance, ammunition, and computer support. The current philosophy is that the ASG could have as few as 300 to as many as 3000 personnel, depending on the contingency.

The value of the ASG to the Desert Storm/Desert Shield effort is demonstrated by reviewing its maintenance and supply accomplishments. The magnitude of the maintenance effort is evident by the production chart at appendix 1.²⁰

The ASG's maintenance mission covered a wide range of commodity groups, including communications, missile, chemical armament, tank and automotive and allied trades. The ASG completed over 40,000 separate jobs in these commodities. One of the most critical maintenance missions involved the upgrading of 1100 tanks. This M1A1 "roll over" program was a priority mission to support deploying units and theater reserve requirements. The upgrade requirement was identified in mid October 90 and completed in country by the end of March 91.²¹ This accomplishment greatly increased combat power and further demonstrated the need for an in-country depot level capability. Active duty maintenance units could not have accomplished this mission due to two reasons:

- * lack of depot level expertise
- * lack of available maintenance personnel.

The flexibility of the ASG coupled with depot level civilian expertise had a significant impact on our ground combat power.

The supply mission of the ASG experienced similar success. In an effort to reduce the amount of material in the pipeline, the supply division established a repairable exchanges activity for selected critical assemblies. This supply mission was designed to provide such components as engines, transmissions, transfers, differentials and other major assemblies to the customer with minimum delay. Additionally, the supply division provided Class IX repair parts to the ASG maintenance division and established the theater retrograde program. By the end of the ground war the mission of the ASG had accomplished the following workload:

* repairables exchange	1600
* retrograde lines	23000
* repair parts issues	(thousands) ²²

The end of the ground war signaled a change of mission for the ASG. The logistics effort shifted from theater sustainment to support of redeploying forces. The component repair and the repairables exchange mission were replaced in importance by preparing equipment for retrograde movement. The supply mission also shifted to total support of the retrograde mission. AMC expanded the retrograde mission to include general supplies, packaged petroleum products, construction and barrier material in addition to repair parts and assemblies. By July 92, the ASG had processed in excess of 136,000 lines of material worth over \$1.35 billion.²³

RECOMMENDATIONS

The realities of declining resources will eventually force changes in how the services perform their logistical missions. The concept of an ASG is a perfect example of such a change. This organization highlights the increasing reliance of the military on the civilian work force to support our forces during a national contingency. The downsizing of the military coupled with the threat of regional conflicts demonstrates a potential shortfall in our logistical force structure. The ability of the military to maintain the high tech, high dollar, low density weapons systems will be significantly degraded with the reduction or elimination of many of the military occupation skills (MOS) from the CSS units. The loss of technical skills in the uniformed services leads to greater reliance on the civilian sector.

Based on our experience in Desert Shield/Desert Storm and the likelihood of future conflicts, I propose the following recommendations:

- * incorporate ASG into the Army logistics force structure
- * develop a mobilization plan for the ASG
- * develop logistical doctrine for the ASG

INCORPORATE THE ASG INTO THE ARMY FORCE STRUCTURE

Downsizing our forces requires careful management of the "tooth to tail" ratio. The logistical community must not suffer the brunt of the reductions. The ASG concept has demonstrated its

value in reducing maintenance downtime and reducing the logistical pipeline. The Army should continue it's effort of incorporating the ASG into a formal TOE organization. AMC is currently working with the Army Combined Arms Support Command (CASCOC) at Ft Lee, Virginia to refine the structure. The ASG will consist of a simple command structure capable of receiving support modules tailored for a particular contingency. This structure will be resourced with active duty, reserve, civil service and contractor personnel. This organization is a proven "winner" and should be resourced accordingly.

MOBILIZATION PLAN FOR THE ASG

Mobilization for the next conflict will take on added importance. Our forces will probably not have the luxury of time to build up our logistical base as we experienced in South West Asia. The ASG which deployed to Saudi Arabia did so with out the benefit of a mobilization plan. The lack of such a plan resulted in difficulties in the logistical planning process as well as in personnel readiness.

General Schwarzkopf made an early decision concerning deployment priorities. He determined his primary need was for combat forces versus combat service support (CSS) forces. This deferment of CSS units resulted in the generation of a significant maintenance and supply backlog. The sequencing of logistical units into the theater became a major issue and was overcome only by a great deal of initiative and flexibility on the part of the entire

logistics community. The fact that the ASG was a provisional unit meant that it was not on the Timed Phased Force Deployment List (TPFDL). This meant the civilians from the depots as well as private contractors had great difficulty in deploying into the theater. Competition for transportation assets became a major consideration.²⁴

Formalizing the ASG into the logistical force structure will generate the required changes in the TPFDL. Logisticians can then forecast the mobilization requirement for a deploying ASG by identifying logistical shortfalls in a deploying division. For example, by examining the logistical shortfalls of a unit such as the 82nd Div (ABN), planners can predict with some certainty which modules of the ASG must be organized and deployed. The ASG will then tailor its organization to round out the logistical capabilities of the division. The ASG will draw from such resources as the reserve component, the depot system, or from private contractors. The ability to predetermine the composition of the ASG will facilitate planning at all levels.

Additionally, a mobilization plan is needed to better prepare civil servants and contractor personnel for deployment. For example, civilian employees should be screened for medical, emotional and personal problems which may impact on their ability to serve in a combat theater. A comprehensive mobilization plan should cover such areas as passports, chemical training, eye inserts for protective mask, pay entitlements, weapons requirements, MEDEVAC procedures, POW status, and workman's

compensation. Many of the problems encountered during Desert Shield/Desert Storm could be minimized in the future by having an refined, workable mobilization plan on the shelf.

INCORPORATE ASG INTO LOGISTICS DOCTRINE

Doctrine serves as the basis for how we fight and sustain our military forces. The ASG in Desert Shield/Desert Storm started as an ad hoc organization and developed operating procedures as the situation ddictated. There was no existing logistical doctrine which covered an organization composed of active duty, reserve, and civilian personnel. CASCOM and AMC should develop logistical doctrine covering all aspects of the ASG. This doctrine should obviously be based on the lessons learned from Desert Shield/Desert Storm.

Once the ASG has been incorporated into Army logistical doctrine, the next step is to insure the ASG is incorporated into major logistical exercises. The ASG concept must be understood by the combat forces as well as the logisticians. Major exercises serve as an vehicle to educate as well a validate new logistical concepts.

POSTSCRIPT

The ASG concept is a radical departure from our current method of doing wholesale maintenance and supply in a tactical environment. The civilian work force, both civil service and private contractor, will take on added importance as we transition to a smaller, more technically oriented force. We must capitalize

on the lessons learned from the Persian Gulf War and refine this concept for the future. The civilian work force has demonstrated they are a vital part of our logistical force structure.

APPENDIX
U.S. ARMY SUPPORT GROUP
PRODUCTION REPORT
AS OF 16 MAY 92

<u>COMMODITY</u>	<u>COMPLETED</u>
COMMUNICATIONS	466
MISSILE/ELECTRONICS	690
CHEMICAL	12,081
ARMAMENT	9000
TANK/AUTOMOTIVE:	
VEHICLES	377
FUEL/ELECTRIC	883
TRANSFERS	93
AXLES	48
ENGINES	202
TRANSMISSIONS	297
ALLIED TRADES:	
WELDING	577
REFINISH	8359
METAL SHOP	89
RADIATOR/FUEL TANK	1992
GENERATOR	32
TEXTILE	5477
TOTAL	40671

ENDNOTES

1. Conduct of the Persian Gulf War, Final Report to the Congress, Chapters 1 through 8, Logistics Build up and Sustainment, Appendix F, pg 1.
2. The Defense Conversion Commission, Adjusting to the Drawdown, December 31, 1992, page 52, U.S Government Printing Office.
3. Telephonic interview with Mr Keith Mostoif; Chief, Army Support Group Rear during Desert Shield/Desert Storm, Depot Systems Command, Mar 93.
4. U.S. Congress, Office of Technology Assessment, Building Future Security, Strategies for Restructuring the Defense Technology and Industrial Base, pg 122, Washington DC., U.S. Government Printing Press, June 1992.
5. ibid, pg 122
6. ibid, pg 123
7. ibid note 1, Appendix N, Civilian Support, pg N-1
8. Logistics Management Institute, The Role of Civilians in Maintaining Military Equipment, Vol 1, pgs 1-6, January 1986
9. ibid, pg 1-3
10. ibid, pg 3-4
11. ibid, pg 4-6
12. Martinous, William P, Col, GS , Commander, United States Army Support Group, Saudi Arabia, during Desert Shield /Desert Storm.
13. U.S. Army Materiel Command, 22nd Support Command After Action Report, Desert Shield/Desert Storm, Vol V of XVI volumes, 31 Mar 91.
14. Air Force Chief of Staff Study Group, Gulf War Air Power Survey, 9 Mar 92
15. ibid, note 1, pg N-5
16. Defense Logistics Agency, Public Affairs Office, 27 Apr 93.
17. Operations Plan Number 1, US Army Support Group, Chambersburg, PA , 050900Z Oct 90.

18. U.S. Army Materiel Command, After Action Report and Observations and Lessons Learned, Category: Personnel, pg II-73.

19. Karageannes, Harry G., Major General, and Martinous P., Colonel, "Supporting Power Projection," Army Logistician, July -Aug 92.

20. U.S Army Support Group (P), Operation Desert Shield/ Desert Storm, After Action Report, Production Report for the period 1 Aug - 12 May 91.

21. Karegeannes, Harry G., Major General, and Mostofit, Keith, "Support Group Operations in Southwest Asia," Army Logistician, Jan -Feb 1992.

22. ibid, note 20

23. ibid, note 21

24. ibid, note 12